

REMARKS

The Official Action dated March 12, 2007, has been carefully reviewed and the foregoing remarks are presented in response thereto. Claims 1, 3, 6-9, 11, 14-17, 19, and 22-27 have been rejected under 35 U.S.C. §101 as directed to non-statutory subject matter. Claims 1, 3, 6-9, 11, 14-17, 19, and 22-24 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,301,575 (hereafter Chadha et al.) in view of Bruce Moxon, "Data Mining: The Golden Promise," copyright 1997, Miller Freeman, Inc. (hereafter Bruce). Claims 25-27 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Chadha in view of Bruce, and further in view of U.S. Patent No. 6,263,337 (hereafter Fayyad et al.).

The foregoing amendment requests the cancellation of claims 3, 11 and 19. Claims 1, 6-8 and 25 have each been amended to recite a computer-implemented data mining system, to include the limitations of cancelled claim 3, and the further include the limitation of presenting the results of the cluster analysis to a user. Claims 9, 14-16 and 26 have been amended to include the limitations of cancelled claim 11, and the additional step of presenting the results of said cluster analysis. Claims 17, 22-24 and 27 have been amended to include the limitations of cancelled claim 19 and the additional element of a means for presenting the results of said cluster analysis to a user.

Rejection of Claims 1, 6-9, 14-17 and 22-27 under 35 U.S.C. §101

The rejection of claims 1, 6-9, 14-17 and 22-27 under 35 U.S.C. §101 is believed to be overcome by the amendments to the claims. Claims 1, 6-8 and 25, as amended, each recite a computer-implemented data mining system including a relational database for storing retail transactional data, and a specific data model that defines the manner in which retail transactional data is stored and organized

within the relational database, wherein the data model is mapped to aggregate the transactional data for cluster analysis of shopping behavior; and wherein the cluster analysis groups the retail transactional data into coherent groups according to perceived similarities in the retail transactional data and presents the results of said cluster analysis to a user.

As amended, each one of claims 9, 14-16 and 26 recite a method for analyzing retail transactional data in a computer-implemented data mining system which includes steps for maintaining a relational database for storing retail transactional data; generating a specific data model that defines the manner in which retail transactional data is stored and organized within the relational database; mapping the data model to aggregate the transactional data for cluster analysis of shopping behavior; performing cluster analysis; and presenting the results of the cluster analysis.

Claims 17, 22-24 and 27, as amended, each recite an apparatus for analyzing retail transactional data in a computer-implemented data mining system, including a relational database for storing retail transactional data; means for generating a specific data model that defines the manner in which retail transactional data is stored and organized within the relational database; means for mapping the data model to aggregate the transactional data for cluster analysis of shopping behavior; means for performing cluster analysis to group said retail transactional data into coherent groups according to perceived similarities in the retail transactional data; and means for presenting the results of said cluster analysis to a user.

It is believed that each one of claims 1, 6-9, 14-17 and 22-27, as amended, defines a patentable invention which produces tangible, concrete and useful results.

Rejection of claims under 35 U.S.C. §103(a)

The rejections of claims 1, 6-9, 14-17 and 22-27 under 35 U.S.C. §103(a) are respectfully traversed. To establish a *prima facie* case of obviousness, at least the following requirements must be met: (1) the references when combined must teach or suggest all elements of the claimed subject matter; (2) there must be some motivation, suggestion or teaching to combine the references; and (3) there must be, within the references, a reasonable expectation of success. *See* M.P.E.P. § 2143 (8th ed., Rev. 2), at 2100-129. The Office has not established a *prima facie* case of obviousness because these requirements have not been satisfied: the references when combined do not teach or suggest all of the elements of the claimed subject matter.

Chadha was cited as teaching a basket database table that contains summary information about the retail transactional data (Chadha, col. 15, lines 21-29), an item database table that contains information about individual items referenced in the retail transactional data (Chadha, col. 8, lines 53-60), and a department database table that contains aggregate information about the retail transactional data (Chadha, col. 10, lines 48-55).

Column 15, lines 21-29 of Chadha describes test performed utilizing mining data drawn from sales data of a retail store chain, with transactions drawn over various periods of time. It is not seen that this is equivalent to “a basket database table that contains summary information about the retail transactional data” recited in each claim of the present application.

Column 10, lines 48-55 of Chadha recites “One of the columns in the multi-column data store represents a transaction, and each of the remaining columns in the multi-column data store represents elements of that transaction. In Block 202, the Data Mining System 124 performs a combination operator to obtain candidate itemsets of data from the multi-column data store, each itemset being a

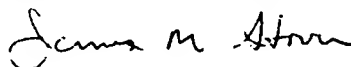
combination of a number of rows of the multi-column data store. It is not seen that this is equivalent to “a department database table that contains aggregate information about the retail transactional data” recited in each claim of the present application.

Bruce at page 3, last line to page 4, line 3, and Figure 3, was cited as teaching mapping the data model to aggregate the transactional data for cluster analysis of shopping behavior. The cited text of Bruce describes data marts and the reformulation of information within a warehouse along lines that will better support specific analysis needs. Figure 3 of Bruce illustrates a system including a source dataset, data mining, and analysis components. It is not seen, however, that the cited text and figure of Bruce describes or illustrates the limitation of a data model mapped “to aggregate the transactional data for cluster analysis of shopping behavior,” recited in each claim of the present application.

As none of the cited references teaches “a basket database table that contains summary information about the retail transactional data,” “a department database table that contains aggregate information about the retail transactional data,” or a data model mapped “to aggregate the transactional data for cluster analysis of shopping behavior”, as recited in each one of independent claims 1, 9 and 17, it is believed that claims 1, 9 and 17, as well as dependent claims 6-8, 14-16, and 22-27, are patentable over the cited references, taken singularly or in combination.

In view of the foregoing amendments and remarks, it is believed that the application, including claims 1, 3, 6-9, 11, 14-17, 19, and 22-27 is in condition for allowance. Early and favorable action is respectfully requested.

Respectfully submitted,



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